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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,422	06/28/2001	Michael H. Wright	EMC-00-067	6882

24227 7590 08/09/2004

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EXAMINER

LIN, KELVIN Y

ART UNIT PAPER NUMBER

2142

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/894,422	Applicant(s) WRIGHT ET AL.	
	Examiner Kelvin Lin	Art Unit 2142	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-56 is/are pending in the application.
 4a) Of the above claim(s) 1-27 is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 28-56 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 28 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>10/09/02</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference character(s) mentioned in the description:
 - a. 141.
2. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected to because of the following informalities:
 - a. On page 23, line 19, the reference character AIX (listed below table 4) is incorrect, because the HP-UX mapping information is for UX, not an AIX operating system.
 - b. Appropriate correction is required.
4. The above noted problem are not necessarily an exhaustive listing, but a meant

to be exemplary of the types of errors present. It is incumbent upon an applicant to ensure that any amendment filed resolves all deficiencies and places the claims in compliance with 235 USC 112.

Claim Rejections - 35 USC § 102

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 28-56 are rejected under 35 USC 102(e) as being anticipated by Gusler (US Patent 6567811). Claims 1-27 have been cancelled as applicant requested.
6. Regarding claim 28, Gusler teaches a method for managing data that may be replicated from one or more volumes of data that are part of a first volume group on a first computer system having a first operating system, the method comprising the computer-executed steps of:
 - a. Discovering logical information related to the one or more volumes of data that are part of the first volume group on the first computer system and creating a map of the logical information to physical devices on the first computer system –

Gusler further discloses a computer code depicts the process of gathering logical volume information, and creating map from logical volume to physical device disk.(Gusler, Fig. 4A, Fig. 7G, col. 9, l.30-32)

and

- b. Mounting a duplicate of the one or more volumes of data on a second computer system having a second operating system using the map to create a second volume group that is substantially identical to the first volume group - (Gusler, Fig. 4B, col.13, l. 31-33)
7. Regarding claim 29, Gusler further discloses the method of claim 28, wherein the first and second operating system are substantially the same and are selected from a group consisting of IBM AIX, Sun Solaris, or HP UX, and the computer-executed steps may be performed substantially independent of which operating system is selected from the group (Gusler, col.8, l. 23).
 8. Regarding claim 30, Gusler further discloses the method of claim 29, wherein the map is configured as a flat file (logical volume script) that is converted into a tree structure (file system) and including the step of using the tree structure to verify the accuracy of the information related to the volume group and the other logical information – e.g. check the appropriate name and values (Gusler, col. 11, l.27-36).

9. Regarding claim 31, Gusler further discloses the method of claim 30, wherein the tree structure is converted back into a map that is sent to a second computer system having a second operating system - by the mirroring procedure (Gusler, col. 9, l. 61-67).
10. Regarding claim 32, Gusler further discloses the method of claim 31, including the step of building a second volume group on the second computing system that is a substantially a copy of the first volume group on the first computing system (Gusler, col. 13, l.36-40).
11. Regarding claim 33, Gusler further discloses the method of claim 32, including the step of :
 - a. Establishing one or more mirrored copies of data that are copies of one or more volumes of data that are part of the first volume group (Gusler, col. 9, l.61-63, col. 10, l.15-16); and
 - b. separating the one or more mirrored copies of data from the respective one or more volumes of data (Gusler, col. 11, l. 25-27).
12. Regarding claim 34, Gusler further discloses the method of claim 33, including the step of mounting the separated one or more copies of data on the first or second computer system using the second volume group (Gusler, col. 13, l.32-34).
13. Regarding claim 35, Gusler further discloses the method of claim 34,

wherein the first and second computer system are combined (Gusler, col.13, l.32-34).

14. Regarding claim 36, Gusler further discloses the method of claim 34, including the step of : dismounting (unmounting) the separated one or more copies from the second computer system (Gusler, col.13, l.1-2).
15. Regarding claim 37, Gusler further discloses the method of claim 33, including the step of: backing up the separated one or more copies of data to a backup system (Gusler, col. 13, l. 17-18).
16. Regarding claim 38, Gusler further discloses the method of claim 37, including the step of: restoring one or more volumes of data from the backup medium of from the one or more mirrored copies of data that are copies of the one or more volumes of data (Gusler, col. 10, l.26-28).
17. Regarding claim 39, Gusler further discloses the method of claim 33, wherein the respective one or more volumes of data that are part of a first volume group on the first computer system are further associated with a first software application – process logs application (Gusler, col. 11, l. 34-36).
18. Regarding claim 40, Gusler further discloses the method of claim 39, wherein a second software application is provided on the second computer system and the separated one or more copies of data on the second computer system are associated with the second software

- application – process logs application (Gusler, col. 11, l.54-55).
19. Regarding claim 41, Gusler further discloses the method of claim 40, including the step of: backing up the separated one or more copies of data to a backup medium (Gusler, col. 10, l.33-36).
 20. Regarding claim 42, Gusler further discloses the method of claim 41, wherein the second software application has an associated database and the step of backing up the separated one or more copies of data to a backup medium includes backing up the associated database (Gusler, col. 10, l. 26-28).
 21. Regarding claim 43, Gusler further discloses the method of claim 42, wherein there is a set of information associated with the database, the set of management data including tablespaces, archive logs, redo logs, and control file and at least some of the set of information associated with the database is backed up to the backup medium during the backup step – A tablespaces is a logical storage unit in the file system so database objects can be stored, furthermore, Gusler further discloses that the file system and log files are backup (merged and synchronized) (Gusler, col. 12, l.29-32).
 22. Regarding claim 44, Gusler further discloses the method of claim 43, including the step of: restoring from the separated one or more copies of data the respective one or more volumes of data associated with the separated one or more copies of data from the separated one or more

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copies of data, and wherein at least some of the set of information associated with the database is used during this step (Gusler, col. 6, l. 29-32).

23. Regarding claims 45-55 have similar limitations as claims 28-38.

Therefore, they are rejected under Gusler for the same reason set forth in the rejection of claims 28-38.

24. Regarding claim 56, Gusler further discloses a program product for use with a data storage system having a plurality of storage devices and which is in communication a first and second computer system, the program product being for management of data and being comprised of: computer-executable logic contained on a computer-readable medium and which is configured for causing the following computer-executed steps to occur:

- a. establishing one or more mirrored copies of data that are copies of one or more volumes of data that are part of a first volume group on a first computer system having a first operating system (Gusler, col. 9, l.61-63, col.10, l.15-16);
- b. separating the one or more mirrored copies of data from the respective one more volumes of data (Gusler, col. 11, l. 25-27);

- c. discovering logical information related to the one or more volumes of data that are part of the volume group on the first computer system and creating a map of the logical information to physical devices on the first computer system (Gusler, Fig. 4a, Fig. 7g, col. 9, l. 30-32); and
- d. mounting a duplicate of the one or more mirrored copies of data on a second computer system having a second operating system using the map to create a second volume group that is substantially identical to the first volume group (Gusler, Fig. 4b, col. 13, l.31-33).

Conclusion

The prior art made of record and not relied upon is considered pertinent to application's disclosure.

- Edwards et al., Patent No. (6567811) Method and system to merge volume groups on a unix-based computer system
- McBride et al., Patent No. (6757698) Method and apparatus for automatically synchronizing data from a host computer to two or more backup data storage location

- Brower et al., Patent No. (6681290) Physical data layout to reduce seeks in a raid system
- NPL – Baru et al., Data reorganization in parallel database system, IEEE workshop on 1993, p.102-107

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kelvin Lin whose telephone number is 703-605-1726. The examiner can normally be reached on Flexible 4/9/5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Harvey can be reached on 703-305-9705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kyl
7/23/04


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SUPERVISORY PATENT EXAMINER